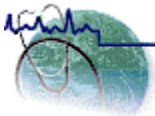
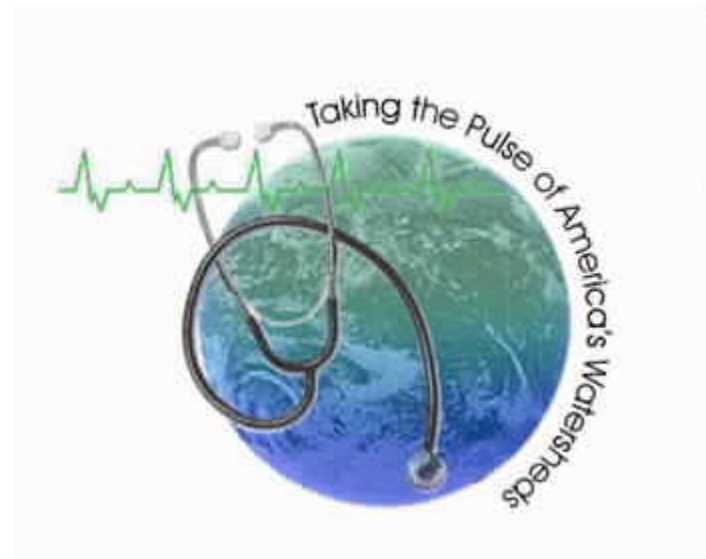


# The Index of Watershed Indicators

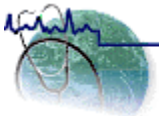
(<http://www.epa.gov/surf/iwi>)

- National presentation of aquatic resource health
- Watershed condition and vulnerability



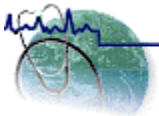
# What Does IWI Do ?

- Characterize watershed condition and vulnerability
- Provide basis for management dialog
- Empower citizens
- Measure progress toward EPA's Goals of healthy watersheds

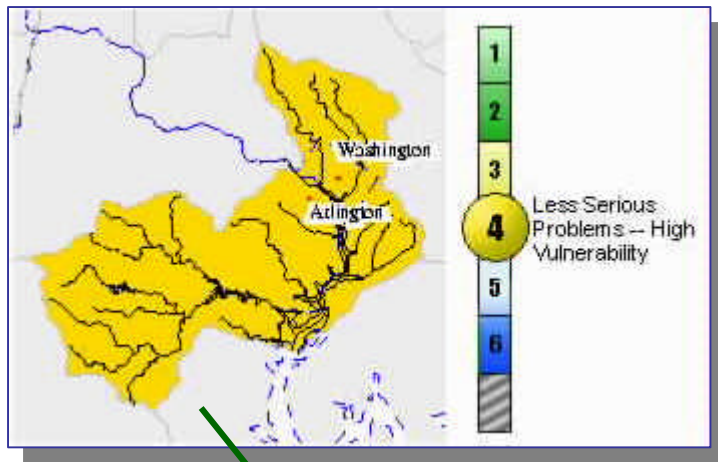


# What IWI does *not* do?

- IWI is not a detailed site-specific information
  - data is aggregated based on the USGS 8-digit cataloging unit
- IWI is not the final word on watershed assessment
  - initial tool for source water assessment and implementing source water protection program
  - not a substitute for state source water assessment under Safe Drinking Water Act
- IWI is not a template for detailed watershed monitoring plan
  - help focus resources of government programs by inspiring more complete data collection/reporting

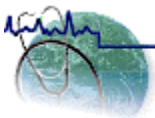


# What is the Index?



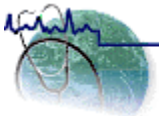
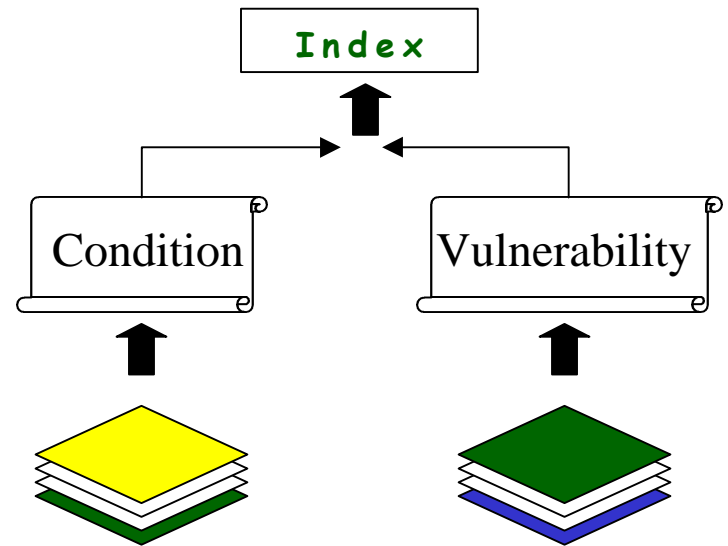
USGS 8-digit  
cataloguing  
unit

- Composite score of 16 watershed indicators
- Score range from 1 - 6
- Each score has two dimensions
  - condition score
  - vulnerability score
- A different score for data insufficiency



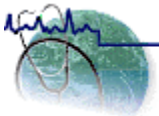
# What are the Indicators ?

- Also known as “IWI Data Layers”
- 16 Indicators
  - Condition: Indicator #1 to #7
  - Vulnerability: Indicator #8 to #15, and #17
- Other Indicators Not Considered in Scoring YET
  - Candidate Indicators
  - Supporting Data Layers in the IWI Map Library



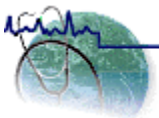
# How were the indicators selected?

- 1995 Office of Water Indicators Report
  - Initial list of indicators for consideration
- Identify Data Gaps and Priorities
  - Moving from water quality to WATERSHED health
- Consult with Others
  - Policy committee, SAB, Workshops
- Phase According to Readiness
  - release
  - candidate
  - map library



# What were the factors?

- National coverage
- Appropriate spatial detail for indicator - ability to summarize at 8 digit cataloging unit
- Time relevancy
- Documented quality
- Understandable
- Feasibility, e.g. cost and readiness
- Representative of watershed health
- Minimize duplication



# The Indicators: Watershed Condition



Map 1: Rivers Meeting All Designated Uses



Map 2: Fish Consumption Advisories



Map 3: Indicators of Source Water Condition



Map 4: National Sediment Inventory



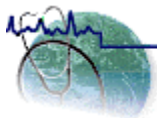
Map 5: Ambient Water Quality Data (Toxic)



Map 6: Ambient Water Quality Data (Conventional)



Map 7: Wetland Loss Index





# The Indicators: Watershed Vulnerability



Map 8: Aquatic/Wetland Species at Risk



Map 9: Pollutant Loads Discharge (Toxic)



Map 10: Pollutant Loads Discharge (Conventional)



Map 11: Urban Runoff Potential



Map 12: Index of Agricultural Runoff Potential



Map 13: Population Change



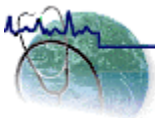
Map 14: Hydrologic Modification



Map 15: Estuarine Pollution Potential



Map 17: Atmospheric Deposition



# The Indicators: Candidate Layers

*Not included in overall score yet but provided for review*



Nitrogen Export



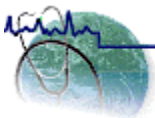
Soil Permeability



Groundwater Nitrate Contamination

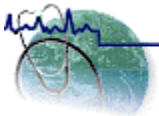


303D Listed Waters



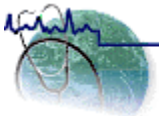
# Map Library - Additional Data Layers

- Additional data layers that provide supporting information and assist in data interpretation
  - USGS Aquifer Map
  - Indian Reservation Lands
  - Streams and Roads Crossing
  - Biological integrity maps



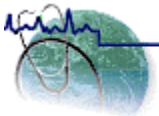
# The IWI process is constantly in motion ...

- Evolving
- Dynamic
- Cyclical



# What's new on IWI (April 1999 Release)

- Data Layer Refresh/Updates
  - New and more recent data (latest-greatest dataset)
  - Candidate indicator atmospheric deposition included in rollup
  - New candidate layer = 303d Listing
- Rollup
  - Algorithm revised to reflect addition of atmospheric deposition
- IWI Web Site
  - Redesigned web site
  - More information
  - More tools (redesigned search engine for “Where does my drinking water come from”)



# What's new on IWI: Data updates

- **Map 1: Designated Uses**
  - *(used latest information between 1994 and 1996)*
- **Map 3: Source Water Condition**
  - *(extended period from 1990-1997 to 1990-1998)*
- **Map 5&6: Ambient Water Quality**
  - *(extended period from 1990-1997 to 1990-1998)*
- **Map 9&10: Pollution Loads Discharge**
  - *(replaced 1997 with 1998 data)*

